STATE OF CALIFORNIA

Energy Resources Conservation and Development Commission

In the Matter of:	)	
The Application for Certification for the CARLSBAD ENERGY CENTER PROJECT	)	DOCKET NO: 07-AFC-6

Testimony of Rory Cox
Carlsbad Energy Center Project
Docket No. 07-AFC-6

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I. Introduction

My testimony addresses the likelihood of the use of natural gas derived from imported Liquefied Natural Gas (LNG) in the proposed Carlsbad Energy Center Project. I am a Program Director at a public interest, non-profit organization with 501-c-3 status. I have held this position for four years. The focus of Pacific Environment's California Program is to ensure the proper implementation and enforcement of California's clean energy policies and regulations, especially in the natural gas industry. I have provided expert comments to several LNG import projects in California, Mexico, and Oregon. I have also provided expert comments on several natural gas power plants throughout California. My analysis of public purpose and need played a direct role in the cancellation of the Cabrillo Port LNG project in 2007. My articles have been published in Natural Gas & Electricity Journal, Natural Gas Weekly, and in numerous daily newspapers. I coordinate a West Coast wide coalition of community groups opposed to the import of Liquefied Natural Gas.

II. SDG&E was granted use of foreign-sourced natural gas over domestic supplies.

Project proponents argued that they had no way of knowing whether the natural gas used in the Carlsbad Energy Center will be derived from imported LNG from the Costa Azul LNG project in Mexico. However, project proponents also state that their project will run on natural gas delivered by San Diego Gas & Electric (SDG&E), a company owned by Sempra Energy.

According to numerous statements made by both SDG&E and Sempra, it is clear that this project will, in the long term, be powered at least in part by regasified LNG from Costa Azul. In 2004, SDG&E made the case at the California Public Utilities Commission that new receipt points on the California/Mexico border were needed. In particular, the company proposed the "Interstate Pipeline Capacity Acquisition Procedure" as a means to "maximize capacity acquisition opportunities with regulatory certainty."[1] One of the receipt points specified was Otay Mesa, which provides a direct gateway to the same SDG&E service territory that will be served by Carlsbad Energy Center Project.

[1] CPUC Rulemaking 04-01-025, at 13.

From Presentation "Sempra LNG Update," August 2009.

Bringing natural gas from Mexico into the SDG&E service territory was one of SDG&E's main objectives in that proceeding. SDG&E also asked the CPUC to allow for the authority to renegotiate reduced amount of natural gas from pre-existing contracts and to terminate the expiring contracts with El Paso Natural Gas Company (El Paso), Transwestern Pipeline Company (Transwestern), and Gas Transmission Northwest Corporation (GTNC) in conjunction with preserving the utilities' rights of first refusal for firm capacity on these interstate pipelines. On September 2, 2004, the CPUC granted these requests.

SDG&E would be interested in such an arrangement in order to supply natural gas from Costa Azul to the customers in their service territory, largely for electricity generation. They were granted that authority by the CPUC. Once natural gas crosses the Otay Mesa receipt point, it enters into the SDG&E natural gas grid.

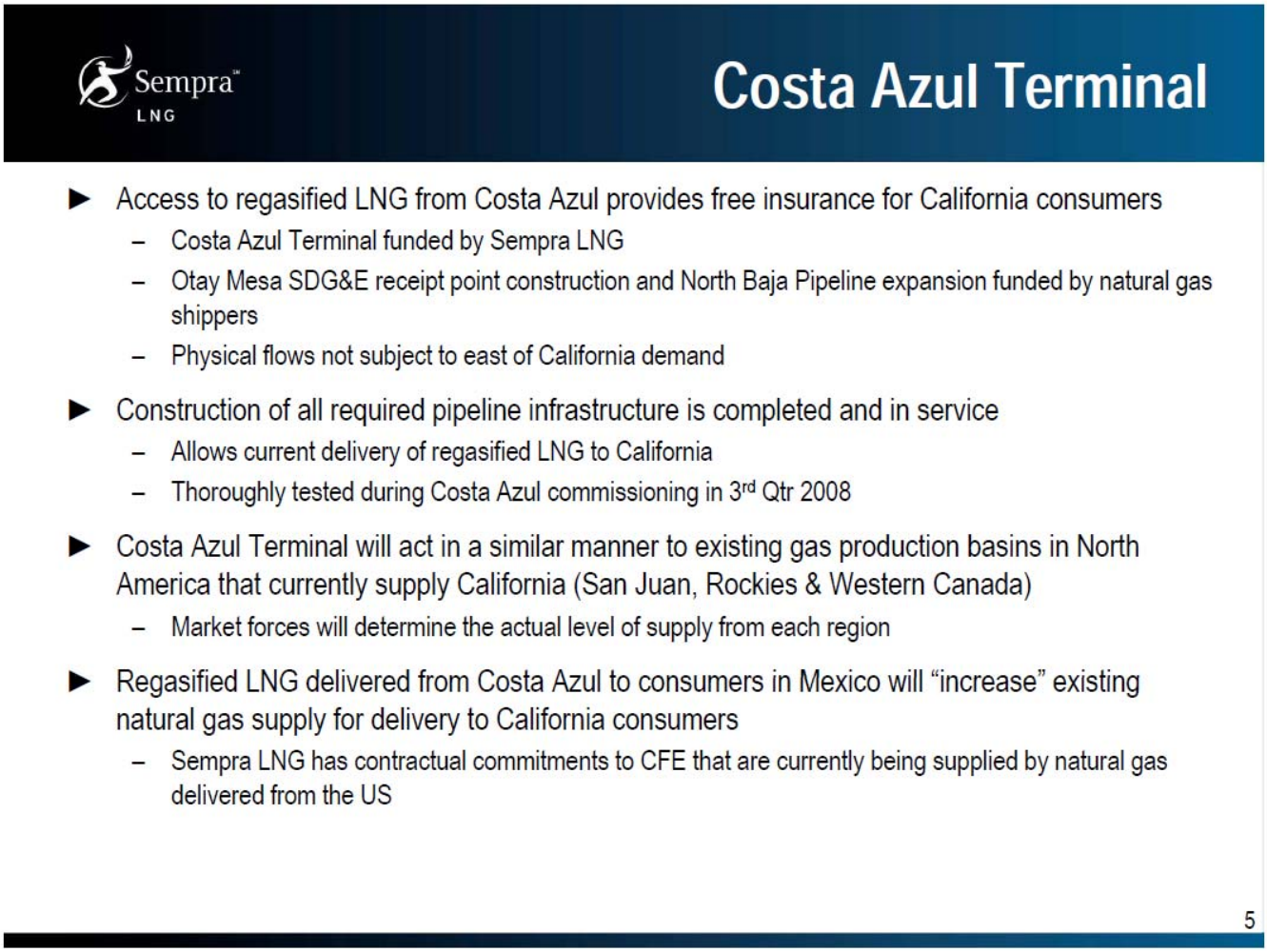
III. More recent statements indicate intention to sell Costa Azul natural gas into SDG&E service territory.

Statements and analyses by Sempra and SDG&E since the 2004 decision make it clear that a significant reason for Sempra's $1 billion investment into the Costa Azul LNG terminal is to sell it via affiliate transactions to SDG&E[2].

Below is a slide from a presentation made by Dale Kelly-Cochrane to the California Energy Commission in August, 2009. Each bullet point contains alleged benefits of the access of LNG into the California market. Terms such as "Allows current delivery of

[2] See, e.g., Sempra Energy 2008 Financial Report at 25, 30, 35, and 150; May 15, 2008 Sempra Energy Press Release re: Costa Azul Ready for Commercial Operation; and U.S. Department of Energy Order No. 2699 Granting Blanket Authorization to Import and Export Natural Gas (including liquefied natural gas) from and to Canada and Mexico.

regasified LNG to California" and "Costa Azul Terminal will act in a similar manner to existing gas production basins in North America" paint a picture of an abundance of natural gas from Costa Azul coming into California. Given that the Carlsbad Energy Center would be one of the opportunities for electricity generation past the Otay Mesa receipt point, it is clear that unless Costa Azul is a $1 billion "white elephant" that remains unused for decades, any significant throughput of natural gas will end up there.



Similarly, Royal Dutch Shell and Gazprom Global LNG, who hold contracts for half the 1 billion cubic feet per day LNG capacity at Costa Azul, have made clear their intention to sell regasified LNG into the United States.[3]

[3] *See e.g.*, August 4, 2009 Press Release by Royal Dutch Shell available at: http://www.shell.com/home/content/media/news_and_library/press_releases/2009/gazprom_shell_signing_contract_08042009.html; *and* U.S. Department of Energy Order No. 2629 Granting Blanket Authorization . . . to Import Liquefied Natural Gas from Various International Sources.

IV. The project will result in a substantial net increase in greenhouse gas emissions.

The science on global warming is indicating that the problem continues to get worse, and thus, the need to analyze all potential greenhouse gas sources from a project is essential. The EPA recently issued an Endangerment and Cause or Contribute Finding for Greenhouse Gases, which stated that "six greenhouse gases [carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6)] taken in combination endanger both the public health and the public welfare of current and future generations."

Scientists, including NASA's James Hansen, believe that we are already beyond a sustainable level of greenhouses gases in our atmosphere and that stabilization requires a reduction from current levels to 350 ppm.[4] Certainly these conclusions should come as no surprise given the accelerating impacts of global warming that we are already seeing. Similarly, scientists are also questioning the belief that the 80 percent reduction in emissions below 1990 levels by 2050 will be sufficient. A recent paper by Matthews, H.D., and Caldeira, K. "Stabilizing climate requires near-zero emissions," 35 Geophys. Res. Letters L04705 (2008), suggests that in order to stabilize atmospheric levels of greenhouse gases, CO2 emissions must be reduced not just to 80 percent below 1990 levels but to "nearly zero" by mid-century.

Imported LNG carries a greenhouse gas penalty over that of domestic, North American natural gas delivered by pipeline. The reason is that much more energy is needed to liquefy the natural gas at the point of extraction abroad, ship it overseas, and regasify it at the LNG import terminal. There is consensus among several studies that this process adds significant greenhouse gas emissions. These studies include:

- Carnegie Mellon University, which found in its 2007 study that imported LNG had a 28 percent midpoint increase over domestic natural gas.[5]
- Richard Heede at Climate Mitigation Services, who concluded that the processing and transport of LNG in the supply chain from Australian to California added 25 percent more emissions.[6]
- Analysis done by Bill Powers at Powers Engineering concluded that LNG sourced from the Tangguh project in Indonesia and delivered to the Costa Azul terminal

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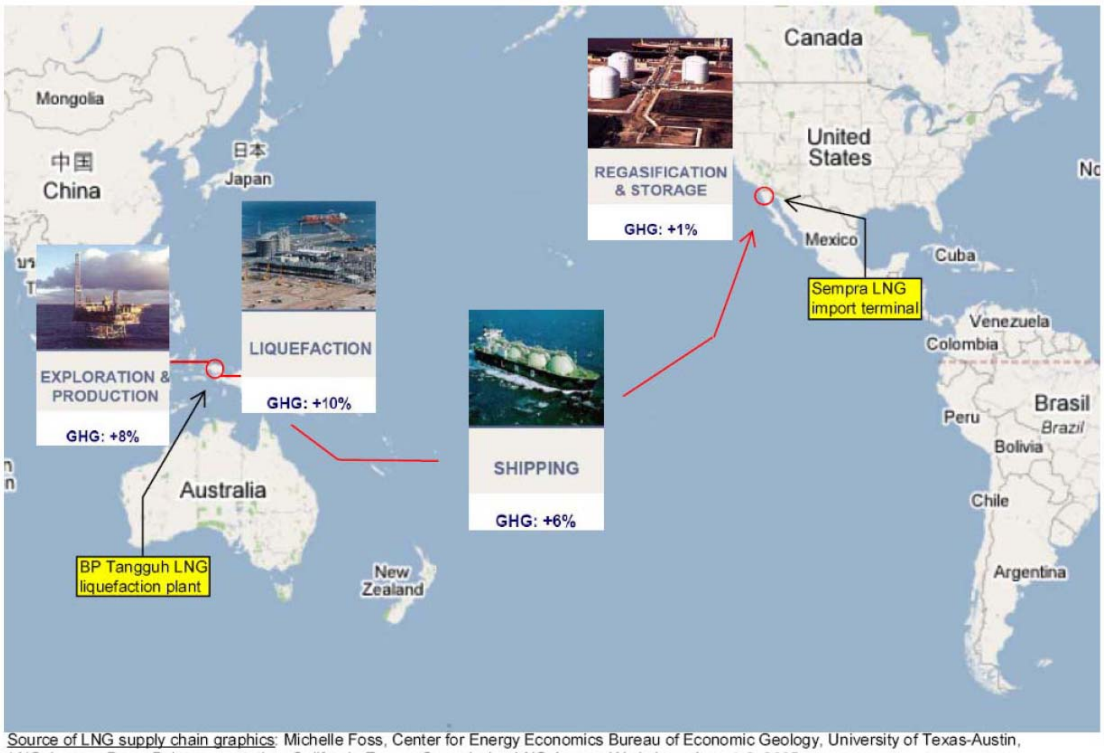
[4] *See* Hansen, J. *et al.*, "Target Atmospheric CO2: Where should Humanity Aim?" Open Atmos Sci J 2008; 2:217-231. Available at: http://arxiv.org/ftp/arxiv/papers/0804/0804.1126.pdf. *See also*, Hansen, J. "Tipping Point: Perspectives of a Climatologist" State of the Wild. April 2008. Available at: http://www.columbia.edu/~jeh1/2008/StateOfWild_20080428.pdf *and* McKibben, B. "Civilization's last chance." Los Angeles Times. May 11, 2008. Available at: http://www.latimes.com/news/opinion/commentary/la-op-mckibben11-2008may11,0,2342317,print.story.

[5] Jaramillo, P.; Griffin, W.; Matthews, H., Comparative Life-Cycle Air Emissions of Coal, Domestic Natural Gas, LNG, and SNG for Electric Generation. *Environmental Science and Technology* 2007, Vol. 41, No. 17, 6290.

[6] Heede, Richard. LNG Supply Chain Greenhouse Gas Emissions for the Cabrillo Deepwater Port: Natural Gas from Australian to California. Climate Mitigation Services. May 7, 2006

would result in an increase of 25 percent greenhouse gas emissions over domestic natural gas. [7] This is illustrated in the map below.



Source of LNG supply chain graphics: Michelle Foss, Center for Energy Economics Bureau of Economic Geology, University of Texas-Austin, *LNG Access*, PowerPoint presentation, California Energy Commission LNG Access Workshop, June 1-2, 2005.
Source of Tangguh raw gas CO_2 content estimate: BP Indonesia webpage (www.bp.com) - "Greenhouse gas emissions - The natural gas in the Tangguh fields contains approximately 10% CO_2 - relatively high by industry standards."
Source of LNG supply chain greenhouse gas contribution estimates: P. Jaramillo, Carnegie-Mellon University, *Comparative Life Cycle Air Emissions of Coal, Domestic Natural Gas, LNG, and SNG for Electricity Generation*, Environmental Science & Technology, published online July 25, 2007.

V. Conclusion

As long as the Costa Azul LNG terminal is operational, it remains highly likely that the Carlsbad Energy Center Project could be supplied with natural gas from the terminal. This would lead to a substantial increase in greenhouse gas emissions over the status quo.

Submitted by Rory Cox
January 6, 2010

[7] Powers, Bill. *San Diego Smart Energy 2020*: *The 21st Century Alternative.* E-tech International. October 2007